

REMARKS

Claims 1 through 15 are pending in the application.

Information Disclosure Statement

It has come to applicant's attention that examiner has crossed out the reference no. 6 (DE 202 03 818) because no translation is provided. This is not understood. There is no requirement that applicant submit a translation of a foreign language document. The only requirements are that a copy be provided and that a brief explanation as to relevance be submitted. The explanation as to relevance can be provided in the form of a search report from a foreign patent office. This has been done, and examiner has adhered to this USPTO policy in the case of the other foreign language references cited on PTO-1449. Therefore, DE 202 03 818 must be accepted and examined by examiner also.

Election/Restriction

Examiner has withdrawn claim 5 as not being disclosed in Fig. 4; the examiner states that the axis 16 is perpendicular to the working surface 2. Applicant respectfully disagrees. The axis 16 is shown and described in connection with Fig. 3; see paragraph 0024. The axis 18 of the manipulator arm 5 is described as a vertical axis and is shown in Fig. 3 as a dashed line; a double-headed arrow indicates rotation about the axis 18. Also shown is a double-headed arrow at the lower end of the dashed line (arrow heads are pointing up) indicating the pivoting action about the axis 16 shown as a cross or plus sign because axis 16 extends perpendicularly to the plane of the drawing and to the axis of rotation 18 and therefore also to the working surface 2. Therefore, Fig. 4 that shows the same device as Figs. 2 and 3 also has an axis 16 that extends in the direction of the movement arrows shown in Fig. 4. A replacement drawing sheet Fig. 4 is submitted herewith that has been amended to show the axis 16 in dashed lines.

Therefore, it is respectfully requested that claim 5 be rejoined.

Claim Rejections 35 USC 112

Claims 1-4, 6-9, 10-12, stand rejected under 35 USC 112 as being inaccurate because the fingers 13 do not grip without cooperating member 21 which is not claimed.

It is respectfully submitted that the device according to the invention does not require the cooperating member 21; the member 21 is an auxiliary means but not

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mandatory for the described action. Applicant has amended the claims to read "pick-up" device and "pick-up" finger instead of "gripping" as "gripping" may imply a clamping action between two parts. The term "pick-up" has been used in the specification in paragraph 0009 as an alternative to "gripping".

The pick-up device functions as follows (see paragraph 0008): The working surface is comprised of longitudinal elements with interposed gaps so that the articles are resting on a grid. The pick-up device with pick-up finger can move into the gaps into a position underneath the article. By lifting the pick-up device, the article is lifted off the working surface. On the movement path to the target location, the article is safely secured by the pick-up device exclusively by the generated acceleration forces in combination with the force of gravity (note that acceleration forces such as the centrifugal acceleration/force can even keep water in a bucket when twirling the bucket). A counter member such as the member 21 is not required. The sum of the acceleration forces and the gravity effect an inertia-caused securing action of the article on the pick-up device. The advantage of the device according to the invention is that no marks or impressions are left on or damage is done to the soft or sensitive articles by the pressure of a counter member. The holding down member 21 that is described in connection with Fig. 3 is not required for operation of the device; it is optional.

Claims 2 and 3 stand rejected as being based on a disclosure that is inadequate; the examiner refers to claims 2 and 3 defining that the fingers be accelerated downward faster than the acceleration of gravity. The examiner states that this would cause the article to engage the bottom of member 11 or the hold-down member 21. Further, examiner states that it is unclear how the article is removed from the gripping device because the article will simply recontact the fingers 13 when the gripper stops dropping. The examiner also requests that missing features or functions for the gripper to drop the article by fast downward movement must be included.

Applicant respectfully disagrees with examiner's assessment. For depositing the articles, the article is released from the pick-up fingers by **accelerating the gripping device** and is deposited by **retracting the pick-up device**. The release action is described in detail in paragraph 0027 of the specification. The pick-up device is accelerated in the

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direction of the acceleration due to gravity. The gripping device acceleration is selected to be **slightly greater than the acceleration due to gravity**; accordingly, the article will slightly **hover** as a result of its inertia above the support surface 14 of the pick-up fingers 13. As the article no longer rests on the fingers 13, the article 3 can be released completely from the pick-up device 6 by a prompt retraction of the pick-up device so that the article drops under the effect of the force of gravity onto a target surface. The downward acceleration of the pick-up device is thus only somewhat greater than acceleration caused by gravity so that the article is no longer in contact with the pick-up fingers and since no contact between the article and the pick-up fingers is present, the pick-up device can be retracted so that the article can drop onto the target surface. The inventive device requires no additional pusher for moving the article off the pick-up fingers. Absent such a pusher, there is also no additional contact or pressure exerted onto the article and there is no risk of additionally damaging the article. Given the clear teaching of the specification, the claim language of claims 2 and 3 is definite and easily understood by any person skilled in the art.

Reconsideration and withdrawal of the rejections of the claims pursuant to 35 USC 112 are therefore respectfully requested.

Rejection under 35 U.S.C. 102

Claims 1-4 stand rejected under 35 U.S.C. 102(b) as being anticipated by *French reference 2725430*.

As discussed above, the device of the present invention picks up, transports, and releases the articles only by means of a combination of acceleration forces and gravitational forces - additional securing or clamping means are not needed.

The prior art reference discloses a device for manipulation of articles in the form of slices of meat or sausage. For gripping a stack of sausage slices, a gripping device is provided that has bottom gripping fingers 12a and top gripping fingers 13a. Figs. 3 to 6 of this reference show all phases of the transport cycle. According to Fig. 3, the bottom gripping fingers 12a are lowered into a gap between the longitudinal elements of the working surface and moved below the article for engaging the slices 7 from below. Subsequently, in accordance with the illustration of Fig. 4, the top gripping fingers 13a are

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moved vertically onto the slices resting on the lower gripping fingers 12a so that the slices 7 are clamped between the fingers 12a, 13a. This clamping action causes a fixation of the slices 7 between the fingers 12a, 13a during transport as illustrated in Fig. 5 showing the slices 7 after they have been lifted. At the target location, the top gripping fingers 13a are lifted relative to the lower gripping fingers 12a so that the stack of sausage slices 7 slides downwardly between the lower gripping fingers 12a into the receptacle 11. The actions of gripping and transporting as well as depositing are realized exclusively by providing a clamping action and by releasing the clamping action of the gripping fingers 13a on the slices 7 supported by the bottom gripping fingers 12a.

A combination of gravity and acceleration forces for securing the article to be transported as claimed in instant claim 1 is not suggested or taught. It is also not suggested to deposit the article by lowering and retracting the pickup device and taking advantage of the inertia forces as disclosed and claimed in claims 2 and 3 of the instant application. The gripping device is instead positioned with the slices clamped in place above the receptacle at a spacing allowing the slices to slide into the receptacle 11 after the clamping action between the top gripping fingers 13a and the bottom fingers 12a has been released.

Claims 1 through 4 are therefore not anticipated by the cited prior art reference. As there is no suggestion in regard to picking up and transporting the articles simply by a combination of gravitational and acceleration forces, but instead, a securing action of the articles by clamping between the upper and lower fingers is taught, the claims 1 to 4 are also not obvious and in view of the cited prior reference.

Rejection under 35 U.S.C. 103

Claims 2, 3, 7, 8 stand rejected under 35 U.S.C. 103(a) as being unpatentable over *French reference 2725430*.

As pointed out above, there is no teaching or suggestion in regard to employing gravitational and acceleration forces for picking up, securing, and releasing articles on a pickup device or pickup fingers. Claims 2 and 3 are therefore not obvious.

Claims 7, 8 are believed to be allowable as dependent claims of claim 1.

Claims 11 and 12 stand rejected under 35 U.S.C. 103(a) as being unpatentable over

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French reference 2725430 and Mitchell (US 2,883,172).

Claims to 11 and 12 are believed to be allowable as dependent claims of claim 1.

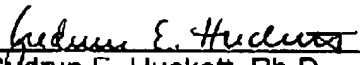
CONCLUSION

In view of the foregoing, it is submitted that this application is now in condition for allowance and such allowance is respectfully solicited.

Should the Examiner have any further objections or suggestions, the undersigned would appreciate a phone call or e-mail from the examiner to discuss appropriate amendments to place the application into condition for allowance.

Authorization is herewith given to charge any fees or any shortages in any fees required during prosecution of this application and not paid by other means to Patent and Trademark Office deposit account 50-1199.

Respectfully submitted on April 18, 2005,


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Encl.: replacement drawing sheet/s Figs. 4 and 5 (1 sheet)